IN THE CLAIMS

Please amend the claims as follows:

1. (original) A method for embedding watermarks in a digital host signal carrying signal information, the method comprising the steps of:

generating a watermark sequence of length *Lw*/N bits carrying predetermined information;

up-sampling the watermark sequence by a factor of N;

at the intermediate sampling points of the up-sampled sequence inserting a modified version of the watermark sequence to form a compound watermark sequence of length *Lw*; and

combining the compound watermark sequence with the host signal to watermark the host signal.

2. (original) The method of claim 1, wherein N is 2.

3. (currently amended) The method of claim 1~~ or 2~~, wherein the modified versions of the watermark sequence are arranged such that the compound watermark sequence is bi-polar.

4. (currently amended) The method of claim 1~~, 2 or 3~~, wherein the modification for generating the modified versions is chosen such

that the DC component of the compound watermark sequence is reduced or minimised.

5. (currently amended) The method of ~~any preceding claim~~claim 1, wherein inserting the modified version of the watermark sequence comprises inserting a negative version of the said watermark sequence at intermediate sampling points so as to form a bipolar up-sampled sequence.

6. (currently amended) The method of ~~any of the preceding claims~~claim 1, wherein inserting the modified versions comprises, for each intermediate point of the up-sampled watermark sequence, inserting a negative version of a neighbouring sampled value of the watermark sequence.

7. (currently amended) The method of ~~any preceding claim~~claim 1, wherein the method for embedding of a watermark in the sequence comprises a transform domain coefficients modulating method.

8. (original) Method as in claim 7, where the transform is FFT.

9. (original) A watermark decoding method comprising the steps of:

receiving a watermarked host signal;

detecting a compound watermark sequence within the watermarked host signal;

splitting the compound watermark sequence into at least two groups of sample values corresponding to a watermark sequence and a modified version of the watermark sequence; and

performing inverse modification of the watermarked sequence in order to retrieve predetermined information carried by it.

10. (original) The method of claim 9, wherein detecting the compound watermark sequence within the watermarked host signal comprises computing absolute values of received transform domain coefficients and performing a smoothing operation on them.

11. (original) The method of claim 10, wherein the smoothing operation comprises averaging the computed absolute values to form an averaged transform domain signal.

12. (currently amended) The method of ~~any of claims 9 to 11~~ claim 9, wherein the compound watermark sequence comprises transform domain coefficients and the step of splitting comprises splitting the transform domain coefficients to assemble a first sequence comprising information at odd sampling points within the compound

watermark sequence, and a second sequence comprising information at even sampling points within the compound watermark sequence.

13. (original) The method of claim 9, wherein the step of splitting comprises applying the averaged transform domain signal to first and second signal paths, each signal path comprising a factor 2 down sampler and one signal path being delayed with respect to the other so as to split the averaged transform domain signal into the first and second sequences.

14. (original) The method of claim 9, wherein performing the inverse modification of the watermark sequence comprises taking the difference between the corresponding sample values of the first and second sequence and normalizing with respect to the sum of corresponding sample values of the first and second sequence.

15. (original) A watermarked host signal, wherein the watermark comprises a compound watermark comprising a combination of an up-sampled sequence of a watermark and a modified version of the same watermark..

16. (original) The watermarked host signal of claim 15, wherein the modification is chosen so as to reduce or minimise a DC component of the compound watermark.

17. (currently amended) The watermarked host signal of claim 15 ~~or 16~~, wherein the compound watermark is generated by up-sampling the watermark and inserting the modified version of the watermark at the intermediate sampling points generated by the up-sampling.

18. (currently amended) The watermarked host signal of claim 15~~, 16 or 17~~, wherein where an up-sampling factor is chosen to be 2, the modified version comprises the inverse of the watermark

19. (original) An apparatus for embedding watermarks in a digital host signal carrying signal information, the apparatus comprising:

a watermark sequence generator (110) for generating a watermark sequence, an up-sampler (120) for up-sampling the watermark sequence by a factor of N;

means for generating a compound watermark sequence by inserting a modified version of the watermark sequence into intermediate sampling points created by the up-sampling process; and

an embedder (140) for applying the compound watermark signal to a host signal.

20. (original) The apparatus of claim 19, wherein the modification is chosen so as to reduce or minimise a DC component of the compound watermark.

21. (currently amended) The apparatus of claim 19~~ or 20~~, wherein the up-sampler comprises a two times up-sampler.

22. (original) The apparatus of claim 20, wherein the means for forming a compound watermark comprises an FIR filter with a response B[m]=[-1,1].

23. (currently amended) The apparatus of claim 19~~, 20, 21 or 22~~, wherein the watermark sequence comprises an FFT block.

24. (original) A watermark decoding apparatus, the apparatus comprising:

means for receiving a watermarked host signal;

means for detecting a compound watermark sequence within the watermarked host signal;

means for splitting the compound watermark sequence into at least first and second sequences corresponding to a watermark sequence and a modified version of the watermark sequence; and

inverse modification means for performing an inverse modification of the watermark sequence in order to retrieve predetermined information carried by it.

25. (original) The apparatus of claim 24, wherein the means for detecting a compound watermark sequence within the watermarked host signal comprises a filter (210) for separating out FFT coefficients of the compound watermark sequence from a received watermarked host signal.

26. (currently amended) The apparatus of claim 24~~ or 25~~, wherein the means for detecting the compound watermark sequence comprises absolute value computation means for providing absolute values of FFT coefficients.

27. (currently amended) The apparatus of claim 24~~, 25 or 26~~, wherein the means for detecting the compound watermark sequence comprises smoothing means for averaging the computed absolute values.

28. (original) The apparatus of claim 27, wherein the smoothing means comprises an accumulator (220).

29. (currently amended) The apparatus of ~~any of claims 24 to 28~~claim 24, wherein the means for splitting the compound watermark sequence comprise first and second signal processing means, the first signal processing means being provided in a first signal path and the second signal processing means being provided in a second signal path, each signal processing means comprising a down-sampler (240,250) of factor N and one of the first or second signal processing means further comprising delay means (230) so as to split the averaged transform domain signal into the first and second sequences.

30. (currently amended) The apparatus of ~~any of claims 24 to 29~~claim 24, wherein the means for performing the inverse modification of the watermark sequence comprises modification means arranged to take the difference between corresponding sample values of the first and second sequence and normalise with respect to the sum of corresponding sample values of the first and second sequence.